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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,328	09/16/2003	Satoshi Arakawa	Q77506	9177
23373	7590	08/29/2005	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			HANNAHER, CONSTANTINE	
			ART UNIT	PAPER NUMBER
			2878	

DATE MAILED: 08/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/662,328		ARAKAWA, SATOSHI	
	<b>Examiner</b>		<b>Art Unit</b>	
	Constantine Hannaher		2878	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>20030916, 20040504</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### **Information Disclosure Statement**

1. The information disclosure statement filed September 16, 2003 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the publications are not identified by author, article title, and date (at least). It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).
2. The Examiner notes that although Imai (EP 0898421A2) was found to be of category "X" with respect to one or more claims, the disclosure therein is to scintillators in a photoconductive binder rather than to particles in a polymer. Accordingly, there is no generation of electric charges upon exposure to recording radiation in particles dispersed in a polymer as required by claim 1 (since in Imai the electric charges are generated in the polymer in response to the scintillation).

### **Oath/Declaration**

3. Kanagawa is not a city. By supplying more than the name of a city and the name of a state (or the name of a foreign country) as the residence, the Office is forced to choose.

### **Claim Rejections - 35 USC § 112**

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 8 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A claim which claims both an apparatus and method steps of using the apparatus is indefinite. *Ex parte Lyell*, 17 USPQ2d 1548 (Bd. Pat. App. & Inter. 1990). Claims 8 and 7 recite method steps of manufacturing while dependent on all the apparatus elements recited in claims 4 and 1.

#### **Claim Rejections - 35 USC § 101**

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 8 and 7 are rejected under 35 U.S.C. 101 because claims 8 and 7 are directed to neither a "process" nor a "machine," but rather embrace or overlap two different statutory classes of invention set forth in 35 U.S.C. 101 which is drafted so as to set forth the statutory classes of invention in the alternative only. *Ex parte Lyell*, 17 USPQ2d 1548, 1551 (Bd. Pat. App. & Inter. 1990). Claims 8 and 7 recite method steps of manufacturing while dependent on all the apparatus elements recited in claims 4 and 1.

#### **Claim Rejections - 35 USC § 103**

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-6, 8, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Izumi (US 20020092992A1) in view of Isoda (US 20010015416A1).

With respect to independent claim 1, Izumi discloses a radiation image sensor 50 (Fig. 1) comprising a radiation detector layer 2 formed of a radiation detector material which generates electric charges upon exposure to recording radiation (X-rays) (paragraph [0044]), and an electric signal detector layer formed of detector elements 6 each of which is formed on the surface of a plastic substrate 1 (*e.g.*, paragraph [0052]) for each pixel to detect the electric charges generated at the corresponding pixel in the radiation detector layer, wherein the radiation detector layer 2 and the electric signal detector layer are laminated one on the other (Fig. 1). Although the radiation detector layer in the radiation image sensor of Izumi is a radiation detector material, the provision of a radiation detector layer of the type recited is known as shown by Isoda. Isoda discloses a radiation image sensor 60 (Fig. 6) comprising a radiation detector layer 64 laminated on an electric signal detector layer 67 in which layer 64 is formed of radiation detector particles of the type recited dispersed in a polymer (see paragraphs [0065]-[0067]). In view of the advantages of the polymer layer with particles dispersed therein over a material layer as described by Isoda (paragraph [0007]), it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the radiation image sensor of Izumi to replace layer 2 therein with a layer 64 as suggested by Isoda.

With respect to dependent claim 2, the radiation detector particles suggested by the radiation image sensor 60 of Isoda are one or more of the recited compositions (paragraph [0066]).

With respect to dependent claim 3, the polymer suggested by the radiation image sensor 60 of Isoda is one or more of the recited types (paragraph [0067]).

With respect to dependent claim 4, the lamination suggested by the radiation image sensor 80 (Fig. 7) of Izumi is by way of conductive resin film 32 (paragraph [0098]) partitioned for respective pixels (paragraph [0097]).

With respect to dependent claims 5 and 6, see the rejections applied against claims 2 and 3.

With respect to dependent claim 8, as best understood, the method of producing a radiation image sensor 80 suggested by Izumi would comprise the steps of forming conductive resin film 32 on each of the detector elements 33 on the electric signal detector layer 28 (paragraph [0099]) and laminating the electric signal detector layer 28 provided with conductive resin film 32 on each of the detector elements 33 on the radiation detector layer 30 (paragraph [0100]).

With respect to dependent claim 7, as best understood, the method of producing a radiation image sensor 50 suggested by Izumi would comprise the steps of forming the radiation detector layer 2 by coating the side of the electric signal detector layer (paragraph [0057]) on which the detector elements 6 are formed. The radiation detector layer 64 suggested by Isoda is fairly described as a dispersion of the radiation detector particles in polymer (paragraph [0099]). The use of a spatula as described by Isoda is the act of coating.

#### **Response to Submission(s)**

10. This application has been published as US2004/0051047A on March 18, 2004.

#### **Conclusion**

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. JP 2001-228638A is equivalent to some portion of Isoda as applied above but does not offer an earlier date of publication. Herron *et al.* (US005556716A) shows that a radiation detector layer of the type recited (column 4, lines 37-61) has long been known.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Constantine Hannaher whose telephone number is (571) 272-2437. The examiner can normally be reached on Monday-Friday with flexible hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Constantine Hannaher  
Primary Examiner